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EXAMINER

AGGARWAL, YOGESH K

ART UNIT PAPER NUMBER

2615

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/676,998

**Applicant(s)**

PINE, JOSHUA I.

**Examiner**

Yogesh K Aggarwal

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-8,11 and 13-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,5,6,11 and 13-16 is/are allowed.
- 6) ☒ Claim(s) 7,8,17,18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 08/26/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Response to Arguments***

1. Applicant's arguments with respect to claims 7, 8, 17 and 18 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 7, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Yukawa et al.  
(US Patent # 6,256,066).

[Claim 7]

Yukawa et al. teaches an image capturing device (figure 1) comprising an adjustable aperture (2a) that allows light to pass through when opened (figure 5a, upper left) and that prevents light from passing to the upper left portion of the pixel when closed at the first position i.e. at the second position (upper right portion of the pixels), a substrate having a plurality of pixels (1) disposed thereon for capturing the light that passes through the adjustable aperture (col. 6 lines 57-63), a shutter mechanism (2) that is used to control the amount of the light that the plurality of pixels receive when the adjustable aperture is opened (col. 7 lines 1-9). Yukawa clearly shows that the shutter mechanism (2) has a planar surface (figure 3) having a plurality of openings (2a).

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Yukawa further teaches that the shutter mechanism is movable from a first position (col. 7 lines 48-63, figure 5a) to a second position (col. 7 line 64-col. 8 line 13, figure 5b) in a plane parallel to the substrate to simultaneously adjusting the amount of light that each of the plurality of pixels receives and a processing device (5) for storing the data (6) that is captured in each of the plurality of pixels such that the image capturing device is able to generate an image that is created by the light that passes through the adjustable aperture (col. 7 lines 30-41).

[Claim 8]

Yukawa teaches that the exposure control plate (2) in the first position (Upper left) as shown in figure 5a exposes the plurality of pixels (1a) to the light that passes through the adjustable aperture (col. 7 lines 48-63, 2a) and in figure 5b the second position (Upper right) is a position that prevents exposure of the plurality of pixels at the first position (upper left) to the light that passes through the adjustable aperture (col. 7 line 64-col. 8 line 13).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yukawa et al. (US Patent # 6,256,066) in view of Bawolek et al. (US PG-PUB # 2004/0012029).

[Claim 17]

Yukawa teaches a method for an image capturing device (figure 1) to control pixel exposure of a plurality of pixels on a substrate, the image capturing device including a shutter mechanism (2)

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that provides a first shutter setting (figure 5a, upper left) and a second shutter setting (figure 5a, upper right), the method comprising arranging the plurality of pixels (1a) to operate with the shutter mechanism such that the first shutter setting (figure 5a, upper left) provides the plurality of pixels with exposure to a light source (col. 7 lines 48-63, figure 5a) and the second shutter setting (figure 5b, upper right) prevents light from passing to the upper left portion of the pixel when closed at the first position (col. 7 line 64-col. 8 line 13, figure 5b) ). Yukawa clearly shows that the shutter mechanism (2) has a planar surface (figure 3) having a plurality of openings (2a) and movable from a first position (figure 5a) to a second position (figure 5b) in a plane parallel to the substrate to simultaneously adjust the amount of light that each of the plurality of pixels except that exposing the plurality of pixels to the light source for a predetermined period of time; measuring a saturation point for each of the plurality of pixels; capturing, with each of the plurality of pixels, a data representation of a portion of the light source; recognizing that the saturation point for at least one of the plurality of pixels has been reached; and positioning the shutter mechanism in the second shutter setting, thereby discontinuing the exposure of the plurality of pixels to the light source. However Bawolek et al. teaches that when the pixels are saturated, the exposure to the light source is stopped which means that they are exposed for a predetermined amount of time (Paragraphs 11 and 12). Therefore taking the combined teachings of Yukawa and Bawolek it would have been obvious to one skilled in the art to expose the plurality of pixels to the light source and measuring a saturation point for each of the plurality of pixels; capturing, with each of the plurality of pixels, a data representation of a portion of the light source; recognizing that the saturation point for at least one of the plurality of pixels has been reached; and positioning the shutter mechanism in the second shutter setting, thereby

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discontinuing the exposure of the plurality of pixels to the light source. Doing so would allow us to avoid blooming and other saturation artifacts in the saturated pixels as taught in Bawolek (Paragraph 0012).

[Claim 18]

Yukawa teaches that the exposure control plate (2) in the first position (Upper left) as shown in figure 5a exposes the plurality of pixels (1a) to the light that passes through the adjustable aperture (col. 7 lines 48-63, 2a) and in figure 5b the second position (Upper right) is a position that prevents exposure of the plurality of pixels at the first position (upper left) to the light that passes through the adjustable aperture (col. 7 line 64-col. 8 line 13).

***Allowable Subject Matter***

6. Claims 1,2, 5, 6, 11 and 13-16 are allowed.

7. The following is an examiner's statement of reasons for allowance: With regards to claim 1, the prior art fails to suggest fairly an electromechanical shutter mechanism comprising at least one individual shutter hingedly attached with respect to said substrate and moveably associated with the at least one pixel and having a first position and a second position that are selected according to commands from the processor of the digital camera, the first position exposing the at least one pixel to the light from the object and the second position preventing the exposure of the at least one pixel to the light.

8. With regards to claim 1, the prior art fails to suggest fairly a method for an image capturing device to control pixel exposure of a plurality of pixels on a substrate, the image capturing device including a shutter mechanism that provides a first shutter setting and a second shutter setting, the method comprising arranging the plurality of pixels to operate with the shutter

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mechanism such that the first shutter setting provides the plurality of pixels with exposure to a light source and the second shutter setting prevents the exposure of the plurality of pixels to the light source constructing the shutter mechanism to be hingedly attached with respect to the substrate.

### *Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K Aggarwal whose telephone number is (703) 305-0346. The examiner can normally be reached on M-F 9:00AM-5:30PM.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on (703) 308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA  
December 29, 2004



TUAN HO  
PRIMARY EXAMINER